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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,342

11/01/2007

Alexander Kreiter

P06,0251

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PATENT DEPARTMENT
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EXAMINER

BEATTY, ROBERT B

ART UNIT

PAPER NUMBER

2852

MAIL DATE

DELIVERY MODE

03/08/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/588,342

Applicant(s)

KREITER ET AL.

Examiner

Robert B. Beatty

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 50-62 and 75-86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 61, 62, 85 and 86 is/are allowed.
- 6) ☒ Claim(s) 50-60 and 75-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/12/11.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 50-53,55,75-78,80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tungate, Jr. et al. (6,792,218).

Tungate, Jr. et al. teach an image forming apparatus having a plurality of image stations each having a developer station 20 confronting an image carrier 22, charging devices, imaging devices and cleaning devices (no reference numerals) and an intermediate transfer belt (ITM) 40 for receiving a developed image from the image carriers and transferring it to a recording medium (see Fig.1). A controller will determined the consumption of toner A (toner discharge from developing device) such as number of request to supply toner, number of turns of a toner supply auger or other toner supply mechanism (col.7, lines 5-10) and the controller will determine a mechanical activity B of the image forming apparatus such as number of ITM or image carrier revolutions. If the ratio of A:B is too low, a regeneration process will ensue which entails forming a developed image pattern on the image carrier and removing it by the image carrier cleaning device or if transferred to the ITM, to remove it with the ITM cleaning device. See col.5, lines 6-55).

Specifically, Tungate Jr. et al. teach everything claimed except specifically stating that the introduction of new toner to the developing station occurs “during said regeneration process”. However, Tungate Jr. et al. teach 1) that toner is replenished into the developing station when a toner sensor 35 detects a toner level too low (col.4, lines 24-33); 2) to temporarily suspend the toner supply to the developing station until the forced toner consumption (dummy print) is complete so as not to waste new introduced toner (col.5, lines 63-67); and 3) removing old toner via the forced consumption of toner and replacing it with new toner (col.7, lines 21-25). The applicant states in the application that in the regeneration process 48, toner is discharged from the developer station and a corresponding amount of fresh toner is subsequently delivered to the developer station (applicant's published application, par.48). Accordingly, applicant's regeneration process comprises the consumption of old toner and the subsequent delivery of fresh new toner. It therefore would have been obvious to one of ordinary skill in the art at the time the invention was made that Tungate Jr. et al. teach the introduction of new fresh toner subsequent to the forcible consumption of old toner as taught from the passages above and this is considered during a “regeneration process” as this term is defined by applicant in the specification.

2. Claims 59-60,83-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tungate, Jr. et al. (6,792,218) in view of Ogasawara et al. (5,168,293).

Tungate, Jr. et al. teach everything claimed except performing a regeneration process at the beginning of a print operation in a preparation mode in which entails activating and powering up the developing station. Ogasawara et al. teach an image forming apparatus which forms a "dummy" print at specified intervals which entails forming a developed patterned toner image on an image carrier and not transferring it to a recording sheet but cleaning it off the image carrier with a cleaning device (col.5, lines 62-68). The "dummy" print is applicant's regeneration process which can occur at warm up of the printer (col.6, lines 3-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made that a warm up period is considered a "preparation mode" and that all devices including the developing device are activated and powered up so as to commence with regular print operations and that by doing so would eliminate deteriorated toner in the developing device before a number of print operations will start.

3. Claims 54,56-58,79,81-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tungate, Jr. et al. (6,792,218) in view of Nonaka et al. (6,766,121).

Tungate, Jr. et al. teach everything claimed except the developed pattern image during the regeneration is transferred to the ITM at 75 - 100 %, that the toner coverage of the pattern is 10-50%, and the regeneration criteria is based on pixel count. Nonaka et al. teach an image forming apparatus having a regeneration process in which a pattern image is developed and not transferred to a recording sheet but cleaned by an image carrier cleaning device (col.13, lines 21-26; col.14, lines 56-67). The criteria as to whether a regeneration process is commenced is by counting the number of pixels which have been printed (col.15, line 46 - col.16, line 36). The toner coverage of the pattern produced during the regeneration process is 50% or 100% (col.17, lines 1-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the number of pixels printed as a criteria as to whether to start a regeneration process because this would be directly related to the amount of toner consumed since each pixel is covered by a predetermined amount of toner. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a high density pattern when performing the regeneration process because the object of the regeneration process is to consume deteriorated toner and if more deteriorated toner is consumed than the image quality will be improved. Finally, the examiner takes Official Notice that not all transferred image are 100% transferred (i.e. some toner remains on the image carrier which is cleaned by a cleaning device) since these systems do not work perfectly and therefore the transfer rate would be a little less than 100%.

4. Claims 61-62,85-86 are allowable over the prior art of record.
5. Applicant's arguments with respect to claims 50-60,75-84 have been considered but are moot in view of the new ground(s) of rejection.

Applicant amended the claims to state that the introduction of toner is during the regeneration process which necessitated the change from a 102 rejection to a 103 rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

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the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert B. Beatty whose telephone number is (571) 272-2130. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray, can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Robert Beatty/
Primary Examiner
Art Unit 2852
March 8, 2011